REMARKS

Reconsideration and allowance of this subject application are respectfully requested.

Claims 31 and 47 stand rejected under 35 U.S.C. c112, second paragraph for indefiniteness. Claim 1 has been amended to include the transitional word "wherein" and to clarify that the word "another" refers to another RAN identifier. The problems noted with claim 47 resulted from a clerical oversight in implementing the amendments indicated in the marked up version of amended claim 47. The instant amendment amends that clerical error. Withdrawal of the rejection under 35 U.S.C. §112, second paragraph is respectfully requested.

The majority of claims 1-11, 13-24, 26, 27, 29, 31-34, 36-50 stand rejected under 35 U.S.C. §102(a) as being anticipated by WO 98/32304 to Mustajarvi et al. This rejection is respectfully traversed.

To establish that a claim is anticipated, the Examiner must point out where each and every limitation in the claim is found in a single prior art reference. *Scripps Clinic & Research Found. v. Genentec, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991). Every limitation contained in the claims must be present in the reference, and if even one limitation is missing from the reference, then it does not anticipate the claim. *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Mustajarvi fails to satisfy that rigorous standard.

Mustajarvi relates to routing area updating in a packet radio network. There is a fundamental different between how mobility management is handed in Mustajarvi as well as Richardson and Jokiaho. All three references describe second generation GPRS-type systems. The present invention relates to a third generation, UMTS terrestrial radio access network (UTRAN). The UTRAN handles all radio-related functionality and takes care of all details related to establishing and maintaining connections between the core network and the mobile terminal. The core network requests services from the UTRAN that satisfy certain service criteria for communication with a particular mobile terminal. The details of how those connections are set up and how data is routed through the UTRAN are transparent to the mobile terminal and to the core network.

In contrast, the GRPS procedures used in Mustajarvi for establishing and maintaining connections, for cell updating and registration area updating, and other mobile terminal location/mobility management operations that require considerable signaling and data transport are not implemented in the radio access network (RAN). The mechanisms used by the core network nodes, such as the SGSN, GGSN, MSC/VLR, HLR, and GMSC, to perform these GPRS procedures are not performed in Mustajarvi's radio access network corresponding to the BSS as shown in Figure 1.

When the mobile station attaches to the GPRS network in Mustajarvi, the SGSN—a core network node and not a radio network node—creates a mobility management context. In the PDP activation procedure, the core network node SGSN creates the PDP context used for GPRS routing. But this PDP context is not used by the radio access

network to specifically route data packets within the RAN between RAN nodes such as RNCs, e.g., between BSCs in Mustajarvi's Figure 1. Routing area updating is orchestrated by core network nodes, and in particular, the SGSN node. See page 13, starting at line 30 through page 16, line 9. The temporary logical link identity (TLLI) and cell identity are used by the old and new SGSN core network nodes. Steps 5, 6, and 7 also describe involving other core network nodes, including the HLR and the VLR, which are not part of the radio access network, identified in Mustajarvi as the base station system (BSS). As shown in Figure 3, all the signaling which relates to routing area update requests, modified PDP contexts, etc., is between the mobile station and the core network nodes including the new SGSN, the old SGSN, the GGSN, the HLR, and the MSC/VLR. The radio access network—the BSS—is simply not involved.

The Examiner's attention is directed to Mustajarvi's Figure 1 which illustrates a GPRS network architecture. As shown at the top of the page, the base station system (BSS) corresponds to the radio access network. But the BSS does not perform the functions of a radio access network provided in the independent claims. The BSS includes the base station (BTS) and the base station controller (BSC). The SGSN node and the MSC/VLR node are core network nodes. The SGSN node is a packet-switched core network node and the MSC is a circuit-switched core network node. See the description on page 1 of Mustajarvi. Unlike Mustajarvi's system in which radio connections are established and mobility management operations are performed using

core network nodes and the mobile radio, these kinds of radio access operations are performed in the present invention by the radio access network.

The present invention is directed to providing effective and efficient communication between mobile terminals and entities/nodes in the radio access network. Individual nodes in the radio access network may be addressed without each RAN node having to know in advance the addresses of all other RAN nodes and without a location register common to the RAN. Moreover, radio connection re-establishment in a new cell belonging to an RNC other than the RNC where the radio connection was originally established can be performed more efficiently.

These functions and benefits are achieved using a temporary **RAN** identifier associated with the mobile terminal for an established connection. As specified in claim 1, the method includes "a RAN node (14) associating a temporary RAN identifier with the mobile terminal for the connection," and "using the temporary **RAN** identifier *in the RAN* to assist in the transfer of information *through the radio access network* relating to the connection."

Significantly, Mustajarvi confirms that the BSS/RAN role is unimportant. The operations in Mustajarvi are performed exclusively in the core network and not in the RAN: "the mobile communication network between the support node SGSN and the mobile station MS only relays packets between these two." Page 11, lines 20-22. Mustajarvi further confirms this at lines 24-27:

> It has to be noted that the mobile communication network only provides a physical connection between the mobile MS

> and the support node SGSN, and thus its exact function and structure is not significant with respect to the invention.

But the mobile communication network, corresponding to the radio access network in the independent claims is significant in the instant application. The radio access network in the independent claims provides much more than a physical connection between the mobile station and the SGSN. In claim 1, for example, the first RAN identifier assists in handling the connection when the mobile initially communicates with the radio access network from a second geographical area as quoted above.

Claim 13 recites a "radio communication system including a *core network* coupled to a *radio access network* (RAN)" and that "a connection between the *core network* and one of a plurality of mobile terminals located in a first geographical area may be *established through the radio network.*" Mustajarvi discloses core network nodes corresponding to the MSC/VLR and the SGSN. As shown in Figure 1, a connection is established with the mobile terminal MS through a radio access network (RAN) BSS. Mustajarvi does not disclose "associating a first RAN identifier with the one mobile terminal for connection to be established." The TLLI referred to by the Examiner is an identifier associated with a mobile terminal and assigned by the SGSN. It is a core network identifier and not a radio access network identifier.

Mustajarvi also fails to disclose "using the first RAN identifier to assist in handling the connection in the radio access network when the one mobile terminal initially communicates with the radio access network from a second geographical area."

In contrast, Mustajarvi's TLLI "is used as an identifier in later signalling and data transmission over this logical link" between the MS and the SGSN. See page 3, lines 26-27. In addition, claim 13 recites "using a second RAN identifier to assist in handling the connection in the radio access network after the initial communication by the one mobile terminal from the second geographical area." Neither the first RAN identifier nor the second RAN identifier, or the functions performed using these RAN identifiers as recited in independent claim 13, are disclosed or suggested in Mustajarvi.

Independent claim 19 recites a core network coupled to a separate and distinct radio access network (RAN) that includes "a first Radio Network Controller (RNC) associated with a first area and a second Radio Network Controller (RNC) associated with a second area." A connection is established between "the core network and one of a plurality of mobile terminals located in the first area through the radio access network using the first RNC." In Mustajarvi, radio network control functions are performed by the BSC1 and the BSC2 shown in Mustajarvi's Figure 1. But Mustajarvi fails to disclose or suggest BSC1 "associating a temporary RAN identifier with the one mobile terminal for the connection." Nor does Mustajarvi disclose or suggest that "when the mobile terminal re-establishes the connection with the second RNC [BSC2], the first RNC [BSC1] communicates information associated with the connection with the second RNC [BSC2] using the temporary RAN identifier."

Claim 34 recites a radio access network (RAN) node. The only RAN nodes disclosed by Mustajarvi are in the BSS and correspond to a base station (BTS) or a base

station controller (BSC). Neither node associates "a temporary RAN identifier for the connection" between the core network one mobile terminal, as recited in claim 34. Neither the BTS nor the BSC in Mustajarvi responds to a message from the core network to use "the temporary RAN identifier to assist in the transfer of information through the radio access network." As quoted above from page 11 of Mustajarvi, the radio access network BSS is merely a conduit and "only relates packets between these two," referring to the SGSN and the mobile station. In Mustajarvi, a temporary RAN identifier is not used to transfer information in the BSS. Mustajarvi fails to recognize an advantage with the RAN assisting in information transfer through the RAN.

Claim 40 recites:

> • means in the RAN for associating a temporary RAN identifier with the mobile terminal for the established connection.
>
> • means in the RAN for using the temporary RAN identifier in the RAN to in the RAN to assist in the transfer of information through the radio access network.

Mustajarvi fails to disclose any RAN means that employs a temporary RAN identifier as recited above. There is certainly no teaching the features of claim 50 in Mustajarvi of the method steps recited here:

> • the first RNC assigning a temporary RAN identifier and a first RNC mobile terminal identifier (MT ID) to the one mobile terminal for the connection;
>
> • sending control or user data between the mobile terminal and the first RNC using the first RNC MT ID;

- if the mobile terminal re-establishes the connection with the second RNC, the first RNC communicates information associated with the connection with the second RNC using the temporary RAN identifier;

- the second RNC assigning a second RNC MT ID to the mobile terminal; and

- sending control or user data between the mobile terminal and the first and second RNCs using the second RNC MT ID.

There is no teaching of the BSC or the BTS assigning both a temporary RAN identifier as well as first and second RNC mobile terminal identifiers to send data between the mobile terminal and an RNC.

Mustajarvi lacks multiple features recited in each independent claim. The anticipation rejection is improper and should be withdrawn.

Claims 3, 6, 7 and 8 stand rejected under 35 U.S.C. §103 as being unpatentable over Mustajarvi in view of WO 97/221313 to Richardson et al. This rejection is respectfully traversed.

Richardson also relates to a GPRS type of network and is specifically directed to a provide a unique, temporary international identification of a mobile station during establishment and re-establishment of a logical link between the mobile and the core network which includes the SGSN and the GGSN. Richardson fails to remedy Mustajarvi's deficiencies because like Mustajarvi, the radio access network corresponding to the BSS is not involved in this process.

Claims 12, 35, 51, and 52 stand rejected under 35 U.S.C. §103 as being unpatentable over Mustajarvi in view of WO 95/2863 to Jokiaho et al. This rejection is respectfully traversed.

Like Mustajarvi and Richardson, Jokiaho describes a GPRS-type system including GPRS attach and detach procedures. Figure 4 illustrates that the various mobility management tasks are handled by the core network nodes including the new SGSN, the old SGSN, the GGSN, the HLR, and the IER nodes. The nodes in the radio network corresponding to the BSS are not involved.

For reasons set forth above, Applicants submit that the application is now in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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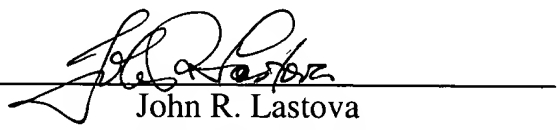
By: 
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